

**From:** [Wilson, Ashley](#)  
**To:** [Wagner, Christine](#)  
**Cc:** **Non-responsive based on revised scope**  
**Subject:** Case# 47768, SDG# MC0X14 - Validated Data for Shiloh Church Road Site  
**Date:** Friday, September 21, 2018 4:04:00 PM  
**Attachments:** [47768 MC0X14 Irr.pdf](#)  
[image001.png](#)  
[47768 MC0X14 SSR.pdf](#)  
[EQuIS 1\\_47768 MC0X14 VAL.xls](#)  
[EQuIS 2\\_47768 MC0X14 VAL.xls](#)  
[EQuIS 3\\_47768 MC0X14 VAL.xls](#)  
[EQuIS\\_47768 MC0X14\\_VAL.xls](#)  
[47768 MC0X14 DVR.pdf](#)

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Christine Wagner  
US EPA Region 3  
1650 Arch Street  
Philadelphia, PA 19103-2029

Christine,

Attached to this message you will find electronic files containing the validation report and validated data for Shiloh Church Road Site, Case# 47768, SDG# MC0X14. The validation of this case was completed by the Region III Environmental Services Assistance Team (ESAT).

Please contact ESAT's RPO, Brandon McDonald by phone at 410-305-2607 or e-mail at [McDonald.BRANDON@epa.gov](mailto:McDonald.BRANDON@epa.gov) if additional assistance is needed.

TO # 0002                    TDF # 0818099



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Ashley Wilson | Research Technician | 410-305-3013 | [Wilson.Ashley@epa.gov](mailto:Wilson.Ashley@epa.gov)  
ICF | 701 Mapes Road, Fort Meade, MD 20755-5350

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION III

Environmental Sciences Center

701 Mapes Road

Fort Meade, Maryland 20755-5350



DATE: 9/21/2018

SUBJECT: Region III Data QA Review

FROM: Brandon McDonald *Brandon McDonald*  
Region III ESAT RPO(3EA22)

TO: CHRIS WAGNER  
Hazardous Site Cleanup Division (HSCD)

Attached is the data validation report for the SHILOH CHURCH ROAD SITE site for RAS# 47768; SDG# MC0X14 completed by the Region III Environmental Services Assistance Team (ESAT) contractor, ICF International, under the direction of Region III EAID.

If you have any questions regarding this review, please call Brandon McDonald at (410) 305-2607 or you can call Eric Graybill at (410)-305-2665.

Attachment

cc:

Non-responsive based on revised scope  
WESTON SOLUTIONS)  
Non-responsive based on revised scope  
(WESTON SOLUTIONS)

TO: #0002 TDF: #0818099

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ICF  
ESAT Region 3  
US Environmental Protection Agency Environmental Science Center  
701 Mapes Road Ft. Meade, MD 20755-5350  
Phone 410-305-3012

**Date:** August 29, 2018

**To:** Brandon McDonald  
ESAT Region 3 Project Officer

**From:** [Redacted]  
Validator

[Redacted]  
Reviewer

**Subject:** Inorganic Data Validation (S4VEM)  
Shiloh Church Road Site  
47768 MC0X14

### Overview

This data package consisted of one (1) sediment samples and eight (8) soil samples, including a field duplicate pair, analyzed for metals by ICP-AES and for mercury (Hg) by cold vapor atomic absorption technique.

Analyses were performed by Bonner Analytical Testing Co. (BON) according to Contract Laboratory Program (CLP) Statement of Work (SOW) ISM02.4.

Data were validated according to the National Functional Guidelines for Inorganic Superfund Methods Data Review and applicable USEPA Region 3 modifications. Electronic validation was performed by the Electronic Data eXchange & Evaluation System (EXES). The validation report has been assigned the Superfund Data Validation Level Stage\_4\_Validation\_Electronic\_Manual (S4VEM).

The following validation narrative is an evaluation of laboratory reported data based on the hardcopy data package received by Region 3 on August 16, 2018.

### Summary

No significant data quality outliers or technical deficiencies were identified that would require rejection of sample results. Less significant data quality outliers resulting in estimation of sample results were identified including, but not limited to, matrix spike recoveries, laboratory duplicate Relative Percent Difference (RPD), and blank contamination as detailed below.

### Minor Problems

The matrix spike recovery was extremely low (<30%) for antimony (Sb). The post-digestion spike recovery was within control limits. Detected concentrations for Sb are estimated and have been qualified "J".

The matrix spike recovery was low (<75%) for manganese (Mn). The post-digestion spike recovery was within control limits. Detected concentrations for Mn are estimated and have been qualified "J".

The RPD in the laboratory duplicate analysis was outside control limits of twenty (20) RPD or  $\pm$  Contract Required Quantitation Limit (CRQL) if results are less than 5X the CRQL for copper (Cu). Detected concentrations for Cu are estimated and have been qualified "J".

Laboratory instrumentation reported a negative value for thallium (Tl) greater than the absolute value of the Method Detection Limit (MDL) in a blank analysis. Quantitation limits for Tl are estimated and have been qualified "UJ".

### **Notes**

Potassium (K) and silver (Ag) have been detected in laboratory blanks associated with the samples in this SDG. Samples which reported detected concentrations for these analytes less than the CRQL have been reported at the CRQL and qualified "U".

Analytes detected below CRQLs not attributed to blank contamination are estimated and have been qualified "J".

Hg matrix spike, Hg laboratory duplicate, Laboratory Control Sample and serial dilution analyses were within control limits.

Three samples were received with standing water. As per Region 3, the laboratory decanted the standing water and proceeded with the analysis of the soil. No data were qualified based on this finding.

Matrix spike recoveries were outside control limits for cadmium (Cd), Cu, lead (Pb) and zinc (Zn), however the initial concentrations of these analytes were greater than four times (>4X) the amount of the respective spikes added. No data were qualified based on this outlier.

Concentrations for the following target analytes exceeded the calibration range in the initial analysis for the samples listed below. These samples were reanalyzed at dilution in order to quantitate these analytes within the calibration range. Results were reported from the dilutions. There is no indication that these exceedance issues impacted subsequent sample analyses.

Sample(s)	Analyte	Dilution
MCOAB9	Iron (Fe)	5X
MCOAC7, MCOAD0, MCOAD2	Cu	2X
MCOAC9	Cd, Cu, Fe, Pb, Zn	10X
	Hg	6X
MCOAD1	Fe, Zn	5X

Results reported for field duplicate pair MCOAC7/MCOAD2 were within control limits of 25 Relative Percent Difference (RPD) or  $\pm$  CRQL for all analytes. No data were qualified based on field duplicate precision.

### **Glossary of Inorganic Data Qualifier Codes**

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Validation Qualifiers	In order of descending precedence. Only one of these qualifiers may apply to any result.
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R      The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.

- UJ The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.
- U The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit
- B The result is presumed a blank contaminant. This qualifier is used for drinking water samples only.
- J The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
- J+ The result is an estimated quantity, but the result may be biased high.
- J- The result is an estimated quantity, but the result may be biased low.

# Sample Summary Report

**Project Name:** SHILO CHURCH ROAD SITE  
**Project**

**GroupID:** 47768/EPW14029/MC0X14

**Lab Name:** Bonner Analytical Testing Co.

Sample Number: LCS01	Method: Metals by ICP-AES	Matrix: Soil	MA Number:
Sample Location:	pH:	Sample Date:	Sample Time:
% Moisture:		% Solids: 100	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Aluminum	Spike	40.9		mg/kg	40.9		1	YES	S4VEM
Antimony	Spike	11.3		mg/kg	11.3		1	YES	S4VEM
Arsenic	Spike	1.5		mg/kg	1.5		1	YES	S4VEM
Barium	Spike	39.6		mg/kg	39.6		1	YES	S4VEM
Beryllium	Spike	0.96		mg/kg	0.96		1	YES	S4VEM
Cadmium	Spike	0.94		mg/kg	0.94		1	YES	S4VEM
Calcium	Spike	998		mg/kg	998		1	YES	S4VEM
Chromium	Spike	2.2		mg/kg	2.2		1	YES	S4VEM
Cobalt	Spike	10.0		mg/kg	10.0		1	YES	S4VEM
Copper	Spike	4.7		mg/kg	4.7		1	YES	S4VEM
Iron	Spike	21.2		mg/kg	21.2		1	YES	S4VEM
Lead	Spike	2.2		mg/kg	2.2		1	YES	S4VEM
Magnesium	Spike	917		mg/kg	917		1	YES	S4VEM
Manganese	Spike	3.1		mg/kg	3.1		1	YES	S4VEM
Nickel	Spike	7.8		mg/kg	7.8		1	YES	S4VEM
Potassium	Spike	931		mg/kg	931		1	YES	S4VEM
Selenium	Spike	6.3		mg/kg	6.3		1	YES	S4VEM
Silver	Spike	1.8		mg/kg	1.8		1	YES	S4VEM
Sodium	Spike	937		mg/kg	937		1	YES	S4VEM
Thallium	Spike	4.6		mg/kg	4.6		1	YES	S4VEM
Vanadium	Spike	10.0		mg/kg	10.0		1	YES	S4VEM
Zinc	Spike	11.8		mg/kg	11.8		1	YES	S4VEM

# Sample Summary Report

Project Name: SHILO CHURCH ROAD SITE  
Project

GroupID: 47768/EPW14029/MC0X14

Lab Name: Bonner Analytical Testing Co.

Sample Number: MC0AB7

Method: Mercury by Cold Vapor

Matrix: Soil

MA Number:

Sample Location: SCR

pH:

Sample Date: 07/25/2018

Sample Time: 09:19:00

% Moisture:

% Solids: 66.7

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Mercury	Target	0.036	J	mg/kg	0.036	J	1	YES	S4VEM

# Sample Summary Report

Project Name: SHILO CHURCH ROAD SITE  
Project

GroupID: 47768/EPW14029/MC0X14

Lab Name: Bonner Analytical Testing Co.

Sample Number: MC0AB7	Method: Metals by ICP-AES	Matrix: Soil	MA Number:
Sample Location: SCR	pH:	Sample Date: 07/25/2018	Sample Time: 09:19:00
% Moisture:		% Solids: 66.7	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Aluminum	Target	8310		mg/kg	8310		1	YES	S4VEM
Antimony	Target	3.4	J	mg/kg	3.4	J*	1	YES	S4VEM
Arsenic	Target	4.3		mg/kg	4.3		1	YES	S4VEM
Barium	Target	89.5		mg/kg	89.5		1	YES	S4VEM
Beryllium	Target	0.11	J	mg/kg	0.11	J	1	YES	S4VEM
Cadmium	Target	3.3		mg/kg	3.3		1	YES	S4VEM
Calcium	Target	1320		mg/kg	1320		1	YES	S4VEM
Chromium	Target	54.5		mg/kg	54.5		1	YES	S4VEM
Cobalt	Target	4.7	J	mg/kg	4.7	J	1	YES	S4VEM
Copper	Target	40.8	J	mg/kg	40.8	*	1	YES	S4VEM
Iron	Target	50500		mg/kg	50500		1	YES	S4VEM
Lead	Target	1080		mg/kg	1080		1	YES	S4VEM
Magnesium	Target	373	J	mg/kg	373	J	1	YES	S4VEM
Manganese	Target	313	J	mg/kg	313	*	1	YES	S4VEM
Nickel	Target	18.6		mg/kg	18.6		1	YES	S4VEM
Potassium	Target	1020		mg/kg	1020		1	YES	S4VEM
Selenium	Target	5.1	U	mg/kg	5.1	U	1	YES	S4VEM
Silver	Target	1.5	U	mg/kg	0.34	J	1	YES	S4VEM
Sodium	Target	5150		mg/kg	5150		1	YES	S4VEM
Thallium	Target	3.7	UJ	mg/kg	3.7	U	1	YES	S4VEM
Vanadium	Target	8.2		mg/kg	8.2		1	YES	S4VEM
Zinc	Target	313		mg/kg	313		1	YES	S4VEM

# Sample Summary Report

Project Name: SHILO CHURCH ROAD SITE  
Project

GroupID: 47768/EPW14029/MC0X14

Lab Name: Bonner Analytical Testing Co.

Sample Number: MC0AB8

Method: Mercury by Cold Vapor

Matrix: Soil

MA Number:

Sample Location: SCR

pH:

Sample Date: 07/24/2018

Sample Time: 16:30:00

% Moisture:

% Solids: 47.8

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Mercury	Target	0.067	J	mg/kg	0.067	J	1	YES	S4VEM

# Sample Summary Report

**Project Name:** SHILO CHURCH ROAD SITE  
**Project**

**GroupID:** 47768/EPW14029/MC0X14

**Lab Name:** Bonner Analytical Testing Co.

Sample Number: MC0AB8	Method: Metals by ICP-AES	Matrix: Soil	MA Number:
Sample Location: SCR	pH:	Sample Date: 07/24/2018	Sample Time: 16:30:00
% Moisture:		% Solids: 47.8	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Aluminum	Target	28200		mg/kg	28200		1	YES	S4VEM
Antimony	Target	1.4	J	mg/kg	1.4	J*	1	YES	S4VEM
Arsenic	Target	2.5		mg/kg	2.5		1	YES	S4VEM
Barium	Target	69.9		mg/kg	69.9		1	YES	S4VEM
Beryllium	Target	0.58	J	mg/kg	0.58	J	1	YES	S4VEM
Cadmium	Target	1.3		mg/kg	1.3		1	YES	S4VEM
Calcium	Target	372	J	mg/kg	372	J	1	YES	S4VEM
Chromium	Target	21.0		mg/kg	21.0		1	YES	S4VEM
Cobalt	Target	7.8	J	mg/kg	7.8	J	1	YES	S4VEM
Copper	Target	40.3	J	mg/kg	40.3	*	1	YES	S4VEM
Iron	Target	23800		mg/kg	23800		1	YES	S4VEM
Lead	Target	64.8		mg/kg	64.8		1	YES	S4VEM
Magnesium	Target	582	J	mg/kg	582	J	1	YES	S4VEM
Manganese	Target	131	J	mg/kg	131	*	1	YES	S4VEM
Nickel	Target	13.5		mg/kg	13.5		1	YES	S4VEM
Potassium	Target	864	U	mg/kg	804	J	1	YES	S4VEM
Selenium	Target	6.1	U	mg/kg	6.1	U	1	YES	S4VEM
Silver	Target	1.7	U	mg/kg	0.15	J	1	YES	S4VEM
Sodium	Target	864	U	mg/kg	864	U	1	YES	S4VEM
Thallium	Target	4.3	UJ	mg/kg	4.3	U	1	YES	S4VEM
Vanadium	Target	47.1		mg/kg	47.1		1	YES	S4VEM
Zinc	Target	88.7		mg/kg	88.7		1	YES	S4VEM

# Sample Summary Report

Project Name: SHILO CHURCH ROAD SITE  
Project

GroupID: 47768/EPW14029/MC0X14

Lab Name: Bonner Analytical Testing Co.

Sample Number: MC0AB9

Method: Mercury by Cold Vapor

Matrix: Soil

MA Number:

Sample Location: SCR

pH:

Sample Date: 07/25/2018

Sample Time: 09:05:00

% Moisture:

% Solids: 57.8

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Mercury	Target	0.041	J	mg/kg	0.041	J	1	YES	S4VEM

# Sample Summary Report

Project Name: SHILO CHURCH ROAD SITE  
Project

GroupID: 47768/EPW14029/MC0X14

Lab Name: Bonner Analytical Testing Co.

Sample Number: MC0AB9	Method: Metals by ICP-AES	Matrix: Soil	MA Number:
Sample Location: SCR	pH:	Sample Date: 07/25/2018	Sample Time: 09:05:00
% Moisture:	% Solids: 57.8		

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Aluminum	Target	15100		mg/kg	15100		1	YES	S4VEM
Antimony	Target	12.2	J	mg/kg	12.2	*	1	YES	S4VEM
Arsenic	Target	12.0		mg/kg	12.0		1	YES	S4VEM
Barium	Target	66.4		mg/kg	66.4		1	YES	S4VEM
Beryllium	Target	0.15	J	mg/kg	0.15	J	1	YES	S4VEM
Cadmium	Target	7.7		mg/kg	7.7		1	YES	S4VEM
Calcium	Target	995		mg/kg	995		1	YES	S4VEM
Chromium	Target	287		mg/kg	287		1	YES	S4VEM
Cobalt	Target	6.9		mg/kg	6.9		1	YES	S4VEM
Copper	Target	69.4	J	mg/kg	69.4	*	1	YES	S4VEM
Iron	Target	129000		mg/kg	129000	D	5	YES	S4VEM
Lead	Target	282		mg/kg	282		1	YES	S4VEM
Magnesium	Target	533	J	mg/kg	533	J	1	YES	S4VEM
Manganese	Target	506	J	mg/kg	506	*	1	YES	S4VEM
Nickel	Target	24.9		mg/kg	24.9		1	YES	S4VEM
Potassium	Target	810		mg/kg	810		1	YES	S4VEM
Selenium	Target	4.2	U	mg/kg	4.2	U	1	YES	S4VEM
Silver	Target	1.2	U	mg/kg	0.43	J	1	YES	S4VEM
Sodium	Target	3940		mg/kg	3940		1	YES	S4VEM
Thallium	Target	3.0	UJ	mg/kg	3.0	U	1	YES	S4VEM
Vanadium	Target	14.9		mg/kg	14.9		1	YES	S4VEM
Zinc	Target	308		mg/kg	308		1	YES	S4VEM

# Sample Summary Report

Project Name: SHILO CHURCH ROAD SITE  
Project

GroupID: 47768/EPW14029/MC0X14

Lab Name: Bonner Analytical Testing Co.

Sample Number: MC0AC7

Method: Mercury by Cold Vapor

Matrix: Soil

MA Number:

Sample Location: SCR

pH:

Sample Date: 07/25/2018

Sample Time: 16:35:00

% Moisture:

% Solids: 61.4

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Mercury	Target	0.71		mg/kg	0.71		1	YES	S4VEM

# Sample Summary Report

**Project Name:** SHILO CHURCH ROAD SITE  
**Project**

**GroupID:** 47768/EPW14029/MC0X14

**Lab Name:** Bonner Analytical Testing Co.

Sample Number: MC0AC7	Method: Metals by ICP-AES	Matrix: Soil	MA Number:
Sample Location: SCR	pH:	Sample Date: 07/25/2018	Sample Time: 16:35:00
% Moisture:		% Solids: 61.4	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Aluminum	Target	22200		mg/kg	22200		1	YES	S4VEM
Antimony	Target	51.6	J	mg/kg	51.6	*	1	YES	S4VEM
Arsenic	Target	7.0		mg/kg	7.0		1	YES	S4VEM
Barium	Target	285		mg/kg	285		1	YES	S4VEM
Beryllium	Target	0.42	J	mg/kg	0.42	J	1	YES	S4VEM
Cadmium	Target	71.4		mg/kg	71.4		1	YES	S4VEM
Calcium	Target	4130		mg/kg	4130		1	YES	S4VEM
Chromium	Target	46.5		mg/kg	46.5		1	YES	S4VEM
Cobalt	Target	8.5		mg/kg	8.5		1	YES	S4VEM
Copper	Target	2720	J	mg/kg	2720	D*	2	YES	S4VEM
Iron	Target	32000		mg/kg	32000		1	YES	S4VEM
Lead	Target	2430		mg/kg	2430		1	YES	S4VEM
Magnesium	Target	1300		mg/kg	1300		1	YES	S4VEM
Manganese	Target	504	J	mg/kg	504	*	1	YES	S4VEM
Nickel	Target	69.5		mg/kg	69.5		1	YES	S4VEM
Potassium	Target	1100		mg/kg	1100		1	YES	S4VEM
Selenium	Target	2.1	J	mg/kg	2.1	J	1	YES	S4VEM
Silver	Target	2.7		mg/kg	2.7		1	YES	S4VEM
Sodium	Target	51.5	J	mg/kg	51.5	J	1	YES	S4VEM
Thallium	Target	4.0	UJ	mg/kg	4.0	U	1	YES	S4VEM
Vanadium	Target	28.1		mg/kg	28.1		1	YES	S4VEM
Zinc	Target	2180		mg/kg	2180		1	YES	S4VEM

# Sample Summary Report

Project Name: SHILO CHURCH ROAD SITE  
Project

GroupID: 47768/EPW14029/MC0X14

Lab Name: Bonner Analytical Testing Co.

Sample Number: MC0AC8

Method: Mercury by Cold Vapor

Matrix: Soil

MA Number:

Sample Location: SCR

pH:

Sample Date: 07/25/2018

Sample Time: 16:55:00

% Moisture:

% Solids: 78.3

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Mercury	Target	0.83		mg/kg	0.83		1	YES	S4VEM

# Sample Summary Report

Project Name: SHILO CHURCH ROAD SITE  
Project

GroupID: 47768/EPW14029/MC0X14

Lab Name: Bonner Analytical Testing Co.

Sample Number: MC0AC8	Method: Metals by ICP-AES	Matrix: Soil	MA Number:
Sample Location: SCR	pH:	Sample Date: 07/25/2018	Sample Time: 16:55:00
% Moisture:		% Solids: 78.3	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Aluminum	Target	18700		mg/kg	18700		1	YES	S4VEM
Antimony	Target	3.0	J	mg/kg	3.0	J*	1	YES	S4VEM
Arsenic	Target	5.7		mg/kg	5.7		1	YES	S4VEM
Barium	Target	88.9		mg/kg	88.9		1	YES	S4VEM
Beryllium	Target	0.31	J	mg/kg	0.31	J	1	YES	S4VEM
Cadmium	Target	34.9		mg/kg	34.9		1	YES	S4VEM
Calcium	Target	2660		mg/kg	2660		1	YES	S4VEM
Chromium	Target	62.3		mg/kg	62.3		1	YES	S4VEM
Cobalt	Target	6.2		mg/kg	6.2		1	YES	S4VEM
Copper	Target	414	J	mg/kg	414	*	1	YES	S4VEM
Iron	Target	39600		mg/kg	39600		1	YES	S4VEM
Lead	Target	551		mg/kg	551		1	YES	S4VEM
Magnesium	Target	1480		mg/kg	1480		1	YES	S4VEM
Manganese	Target	428	J	mg/kg	428	*	1	YES	S4VEM
Nickel	Target	72.9		mg/kg	72.9		1	YES	S4VEM
Potassium	Target	703		mg/kg	703		1	YES	S4VEM
Selenium	Target	0.42	J	mg/kg	0.42	J	1	YES	S4VEM
Silver	Target	1.2	U	mg/kg	0.57	J	1	YES	S4VEM
Sodium	Target	44.2	J	mg/kg	44.2	J	1	YES	S4VEM
Thallium	Target	3.0	UJ	mg/kg	3.0	U	1	YES	S4VEM
Vanadium	Target	31.9		mg/kg	31.9		1	YES	S4VEM
Zinc	Target	2350		mg/kg	2350		1	YES	S4VEM

# Sample Summary Report

Project Name: SHILO CHURCH ROAD SITE  
Project

GroupID: 47768/EPW14029/MC0X14

Lab Name: Bonner Analytical Testing Co.

Sample Number: MC0AC9

Method: Mercury by Cold Vapor

Matrix: Soil

MA Number:

Sample Location: SCR

pH:

Sample Date: 07/26/2018

Sample Time: 08:40:00

% Moisture:

% Solids: 74.1

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Mercury	Target	4.8		mg/kg	4.8	D	6	YES	S4VEM

# Sample Summary Report

**Project Name:** SHILO CHURCH ROAD SITE  
**Project**

**GroupID:** 47768/EPW14029/MC0X14

**Lab Name:** Bonner Analytical Testing Co.

Sample Number: MC0AC9	Method: Metals by ICP-AES	Matrix: Soil	MA Number:
Sample Location: SCR	pH:	Sample Date: 07/26/2018	Sample Time: 08:40:00
% Moisture:		% Solids: 74.1	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Aluminum	Target	21700		mg/kg	21700		1	YES	S4VEM
Antimony	Target	28.5	J	mg/kg	28.5	*	1	YES	S4VEM
Arsenic	Target	15.3		mg/kg	15.3		1	YES	S4VEM
Barium	Target	294		mg/kg	294		1	YES	S4VEM
Beryllium	Target	0.52	J	mg/kg	0.52	J	1	YES	S4VEM
Cadmium	Target	277		mg/kg	277	D	10	YES	S4VEM
Calcium	Target	5790		mg/kg	5790		1	YES	S4VEM
Chromium	Target	129		mg/kg	129		1	YES	S4VEM
Cobalt	Target	13.9		mg/kg	13.9		1	YES	S4VEM
Copper	Target	2890	J	mg/kg	2890	D*	10	YES	S4VEM
Iron	Target	170000		mg/kg	170000	D	10	YES	S4VEM
Lead	Target	3180		mg/kg	3180	D	10	YES	S4VEM
Magnesium	Target	2590		mg/kg	2590		1	YES	S4VEM
Manganese	Target	1690	J	mg/kg	1690	*	1	YES	S4VEM
Nickel	Target	200		mg/kg	200		1	YES	S4VEM
Potassium	Target	587	U	mg/kg	448	J	1	YES	S4VEM
Selenium	Target	231		mg/kg	231		1	YES	S4VEM
Silver	Target	13.5		mg/kg	13.5		1	YES	S4VEM
Sodium	Target	65.3	J	mg/kg	65.3	J	1	YES	S4VEM
Thallium	Target	2.9	UJ	mg/kg	2.9	U	1	YES	S4VEM
Vanadium	Target	20.6		mg/kg	20.6		1	YES	S4VEM
Zinc	Target	7660		mg/kg	7660	D	10	YES	S4VEM

# Sample Summary Report

Project Name: SHILO CHURCH ROAD SITE  
Project

GroupID: 47768/EPW14029/MC0X14

Lab Name: Bonner Analytical Testing Co.

Sample Number: MC0AD0

Method: Mercury by Cold Vapor

Matrix: Soil

MA Number:

Sample Location: SCR

pH:

Sample Date: 07/26/2018

Sample Time: 09:05:00

% Moisture:

% Solids: 77.5

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Mercury	Target	0.58		mg/kg	0.58		1	YES	S4VEM

# Sample Summary Report

**Project Name:** SHILO CHURCH ROAD SITE  
**Project**

**GroupID:** 47768/EPW14029/MC0X14

**Lab Name:** Bonner Analytical Testing Co.

Sample Number: MC0AD0	Method: Metals by ICP-AES	Matrix: Soil	MA Number:
Sample Location: SCR	pH:	Sample Date: 07/26/2018	Sample Time: 09:05:00
% Moisture:		% Solids: 77.5	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Aluminum	Target	9770		mg/kg	9770		1	YES	S4VEM
Antimony	Target	46.6	J	mg/kg	46.6	*	1	YES	S4VEM
Arsenic	Target	7.0		mg/kg	7.0		1	YES	S4VEM
Barium	Target	95.7		mg/kg	95.7		1	YES	S4VEM
Beryllium	Target	0.13	J	mg/kg	0.13	J	1	YES	S4VEM
Cadmium	Target	14.7		mg/kg	14.7		1	YES	S4VEM
Calcium	Target	1300		mg/kg	1300		1	YES	S4VEM
Chromium	Target	34.8		mg/kg	34.8		1	YES	S4VEM
Cobalt	Target	2.4	J	mg/kg	2.4	J	1	YES	S4VEM
Copper	Target	1260	J	mg/kg	1260	D*	2	YES	S4VEM
Iron	Target	20600		mg/kg	20600		1	YES	S4VEM
Lead	Target	1230		mg/kg	1230		1	YES	S4VEM
Magnesium	Target	505	J	mg/kg	505	J	1	YES	S4VEM
Manganese	Target	190	J	mg/kg	190	*	1	YES	S4VEM
Nickel	Target	18.8		mg/kg	18.8		1	YES	S4VEM
Potassium	Target	597	U	mg/kg	499	J	1	YES	S4VEM
Selenium	Target	4.2	U	mg/kg	4.2	U	1	YES	S4VEM
Silver	Target	1.2	U	mg/kg	0.44	J	1	YES	S4VEM
Sodium	Target	597	U	mg/kg	597	U	1	YES	S4VEM
Thallium	Target	3.0	UJ	mg/kg	3.0	U	1	YES	S4VEM
Vanadium	Target	14.2		mg/kg	14.2		1	YES	S4VEM
Zinc	Target	1470		mg/kg	1470		1	YES	S4VEM

# Sample Summary Report

Project Name: SHILO CHURCH ROAD SITE  
Project

GroupID: 47768/EPW14029/MC0X14

Lab Name: Bonner Analytical Testing Co.

Sample Number: MC0AD1

Method: Mercury by Cold Vapor

Matrix: Soil

MA Number:

Sample Location: SCR

pH:

Sample Date: 07/26/2018

Sample Time: 09:26:00

% Moisture:

% Solids: 73.6

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Mercury	Target	0.46		mg/kg	0.46		1	YES	S4VEM

# Sample Summary Report

Project Name: SHILO CHURCH ROAD SITE  
Project

GroupID: 47768/EPW14029/MC0X14

Lab Name: Bonner Analytical Testing Co.

Sample Number: MC0AD1	Method: Metals by ICP-AES	Matrix: Soil	MA Number:
Sample Location: SCR	pH:	Sample Date: 07/26/2018	Sample Time: 09:26:00
% Moisture:		% Solids: 73.6	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Aluminum	Target	25800		mg/kg	25800		1	YES	S4VEM
Antimony	Target	22.7	J	mg/kg	22.7	*	1	YES	S4VEM
Arsenic	Target	19.3		mg/kg	19.3		1	YES	S4VEM
Barium	Target	164		mg/kg	164		1	YES	S4VEM
Beryllium	Target	0.63	J	mg/kg	0.63	J	1	YES	S4VEM
Cadmium	Target	34.4		mg/kg	34.4		1	YES	S4VEM
Calcium	Target	2640		mg/kg	2640		1	YES	S4VEM
Chromium	Target	78.1		mg/kg	78.1		1	YES	S4VEM
Cobalt	Target	14.9		mg/kg	14.9		1	YES	S4VEM
Copper	Target	961	J	mg/kg	961	*	1	YES	S4VEM
Iron	Target	122000		mg/kg	122000	D	5	YES	S4VEM
Lead	Target	875		mg/kg	875		1	YES	S4VEM
Magnesium	Target	1040		mg/kg	1040		1	YES	S4VEM
Manganese	Target	462	J	mg/kg	462	*	1	YES	S4VEM
Nickel	Target	87.8		mg/kg	87.8		1	YES	S4VEM
Potassium	Target	679	U	mg/kg	408	J	1	YES	S4VEM
Selenium	Target	4.8	U	mg/kg	4.8	U	1	YES	S4VEM
Silver	Target	1.4	U	mg/kg	1.1	J	1	YES	S4VEM
Sodium	Target	63.3	J	mg/kg	63.3	J	1	YES	S4VEM
Thallium	Target	3.4	UJ	mg/kg	3.4	U	1	YES	S4VEM
Vanadium	Target	87.5		mg/kg	87.5		1	YES	S4VEM
Zinc	Target	20100		mg/kg	20100	D	5	YES	S4VEM

# Sample Summary Report

Project Name: SHILO CHURCH ROAD SITE  
Project

GroupID: 47768/EPW14029/MC0X14

Lab Name: Bonner Analytical Testing Co.

Sample Number: MC0AD2	Method: Mercury by Cold Vapor	Matrix: Soil	MA Number:
Sample Location: SCR	pH:	Sample Date: 07/25/2018	Sample Time: 16:40:00
% Moisture:	% Solids: 63.0		

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Mercury	Target	0.64		mg/kg	0.64		1	YES	S4VEM

# Sample Summary Report

**Project Name:** SHILO CHURCH ROAD SITE  
**Project**

**GroupID:** 47768/EPW14029/MC0X14

**Lab Name:** Bonner Analytical Testing Co.

Sample Number: MC0AD2	Method: Metals by ICP-AES	Matrix: Soil	MA Number:
Sample Location: SCR	pH:	Sample Date: 07/25/2018	Sample Time: 16:40:00
% Moisture:		% Solids: 63.0	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Aluminum	Target	25000		mg/kg	25000		1	YES	S4VEM
Antimony	Target	60.7	J	mg/kg	60.7	*	1	YES	S4VEM
Arsenic	Target	7.7		mg/kg	7.7		1	YES	S4VEM
Barium	Target	325		mg/kg	325		1	YES	S4VEM
Beryllium	Target	0.44	J	mg/kg	0.44	J	1	YES	S4VEM
Cadmium	Target	75.9		mg/kg	75.9		1	YES	S4VEM
Calcium	Target	4180		mg/kg	4180		1	YES	S4VEM
Chromium	Target	48.8		mg/kg	48.8		1	YES	S4VEM
Cobalt	Target	8.2		mg/kg	8.2		1	YES	S4VEM
Copper	Target	2830	J	mg/kg	2830	D*	2	YES	S4VEM
Iron	Target	31600		mg/kg	31600		1	YES	S4VEM
Lead	Target	2710		mg/kg	2710		1	YES	S4VEM
Magnesium	Target	1360		mg/kg	1360		1	YES	S4VEM
Manganese	Target	521	J	mg/kg	521	*	1	YES	S4VEM
Nickel	Target	76.0		mg/kg	76.0		1	YES	S4VEM
Potassium	Target	1150		mg/kg	1150		1	YES	S4VEM
Selenium	Target	1.1	J	mg/kg	1.1	J	1	YES	S4VEM
Silver	Target	3.1		mg/kg	3.1		1	YES	S4VEM
Sodium	Target	53.0	J	mg/kg	53.0	J	1	YES	S4VEM
Thallium	Target	4.0	UJ	mg/kg	4.0	U	1	YES	S4VEM
Vanadium	Target	28.0		mg/kg	28.0		1	YES	S4VEM
Zinc	Target	2310		mg/kg	2310		1	YES	S4VEM

# Sample Summary Report

Project Name: SHILO CHURCH ROAD SITE  
Project

GroupID: 47768/EPW14029/MC0X14

Lab Name: Bonner Analytical Testing Co.

Sample Number: MC0AD2A

Method: Metals by ICP-AES

Matrix: Soil

MA Number:

Sample Location:

pH:

Sample Date: 07/25/2018

Sample Time: 16:40:00

% Moisture:

% Solids: 63.0

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Antimony	Spike	166		mg/kg	166		1	YES	S4VEM
Manganese	Spike	1510		mg/kg	1510		1	YES	S4VEM

# Sample Summary Report

Project Name: SHILO CHURCH ROAD SITE  
Project

GroupID: 47768/EPW14029/MC0X14

Lab Name: Bonner Analytical Testing Co.

Sample Number: MC0AD2D	Method: Mercury by Cold Vapor	Matrix: Soil	MA Number:
Sample Location:	pH:	Sample Date: 07/25/2018	Sample Time: 16:40:00
% Moisture:		% Solids: 63.0	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Mercury	Target	0.53		mg/kg	0.53		1	YES	S4VEM

# Sample Summary Report

**Project Name:** SHILO CHURCH ROAD SITE  
**Project**

**GroupID:** 47768/EPW14029/MC0X14

**Lab Name:** Bonner Analytical Testing Co.

Sample Number: MC0AD2D	Method: Metals by ICP-AES	Matrix: Soil	MA Number:
Sample Location:	pH:	Sample Date: 07/25/2018	Sample Time: 16:40:00
% Moisture:		% Solids: 63.0	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Aluminum	Target	22800		mg/kg	22800		1	YES	S4VEM
Antimony	Target	57.4		mg/kg	57.4		1	YES	S4VEM
Arsenic	Target	7.1		mg/kg	7.1		1	YES	S4VEM
Barium	Target	319		mg/kg	319		1	YES	S4VEM
Beryllium	Target	0.40	J	mg/kg	0.40	J	1	YES	S4VEM
Cadmium	Target	80.7		mg/kg	80.7		1	YES	S4VEM
Calcium	Target	3970		mg/kg	3970		1	YES	S4VEM
Chromium	Target	49.2		mg/kg	49.2		1	YES	S4VEM
Cobalt	Target	8.1		mg/kg	8.1		1	YES	S4VEM
Copper	Target	3850		mg/kg	3850	D*	3	YES	S4VEM
Iron	Target	31300		mg/kg	31300		1	YES	S4VEM
Lead	Target	2560		mg/kg	2560		1	YES	S4VEM
Magnesium	Target	1310		mg/kg	1310		1	YES	S4VEM
Manganese	Target	509		mg/kg	509		1	YES	S4VEM
Nickel	Target	72.6		mg/kg	72.6		1	YES	S4VEM
Potassium	Target	1060		mg/kg	1060		1	YES	S4VEM
Selenium	Target	1.1	J	mg/kg	1.1	J	1	YES	S4VEM
Silver	Target	3.8		mg/kg	3.8		1	YES	S4VEM
Sodium	Target	56.6	J	mg/kg	56.6	J	1	YES	S4VEM
Thallium	Target	4.0	U	mg/kg	4.0	U	1	YES	S4VEM
Vanadium	Target	26.7		mg/kg	26.7		1	YES	S4VEM
Zinc	Target	2350		mg/kg	2350		1	YES	S4VEM

# Sample Summary Report

**Project Name:** SHILO CHURCH ROAD SITE  
**Project**

**GroupID:** 47768/EPW14029/MC0X14

**Lab Name:** Bonner Analytical Testing Co.

Sample Number: MC0AD2L	Method: Metals by ICP-AES	Matrix: Soil	MA Number:
Sample Location:	pH:	Sample Date:	Sample Time:
% Moisture:		% Solids: 63.0	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Aluminum	Target	25700		mg/kg	25700		5	YES	S4VEM
Antimony	Target	62.9		mg/kg	62.9		5	YES	S4VEM
Arsenic	Target	6.8	J	mg/kg	6.8	J	5	YES	S4VEM
Barium	Target	332		mg/kg	332		5	YES	S4VEM
Beryllium	Target	0.44	J	mg/kg	0.44	J	5	YES	S4VEM
Cadmium	Target	73.0		mg/kg	73.0		5	YES	S4VEM
Calcium	Target	4380		mg/kg	4380		5	YES	S4VEM
Chromium	Target	51.1		mg/kg	51.1		5	YES	S4VEM
Cobalt	Target	8.8	J	mg/kg	8.8	J	5	YES	S4VEM
Copper	Target	2890		mg/kg	2890	D	10	YES	S4VEM
Iron	Target	33200		mg/kg	33200		5	YES	S4VEM
Lead	Target	2680		mg/kg	2680		5	YES	S4VEM
Magnesium	Target	1440	J	mg/kg	1440	J	5	YES	S4VEM
Manganese	Target	545		mg/kg	545		5	YES	S4VEM
Nickel	Target	73.1		mg/kg	73.1		5	YES	S4VEM
Potassium	Target	1160	J	mg/kg	1160	J	5	YES	S4VEM
Selenium	Target	27.8	U	mg/kg	27.8	U	5	YES	S4VEM
Silver	Target	3.5	J	mg/kg	3.5	J	5	YES	S4VEM
Sodium	Target	3970	U	mg/kg	3970	U	5	YES	S4VEM
Thallium	Target	19.8	U	mg/kg	19.8	U	5	YES	S4VEM
Vanadium	Target	28.8	J	mg/kg	28.8	J	5	YES	S4VEM
Zinc	Target	2270		mg/kg	2270		5	YES	S4VEM

# Sample Summary Report

Project Name: SHILO CHURCH ROAD SITE  
Project

GroupID: 47768/EPW14029/MC0X14

Lab Name: Bonner Analytical Testing Co.

Sample Number: MC0AD2S	Method: Mercury by Cold Vapor	Matrix: Soil	MA Number:
Sample Location:	pH:	Sample Date: 07/25/2018	Sample Time: 16:40:00
% Moisture:		% Solids: 63.0	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Mercury	Spike	1.3		mg/kg	1.3		1	YES	S4VEM

# Sample Summary Report

**Project Name:** SHILO CHURCH ROAD SITE  
**Project**

**GroupID:** 47768/EPW14029/MC0X14

**Lab Name:** Bonner Analytical Testing Co.

Sample Number: MC0AD2S	Method: Metals by ICP-AES	Matrix: Soil	MA Number:
Sample Location:	pH:	Sample Date: 07/25/2018	Sample Time: 16:40:00
% Moisture:		% Solids: 63.0	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Antimony	Spike	47.4		mg/kg	47.4		1	YES	S4VEM
Arsenic	Spike	18.8		mg/kg	18.8		1	YES	S4VEM
Barium	Spike	856		mg/kg	856		1	YES	S4VEM
Beryllium	Spike	15.6		mg/kg	15.6		1	YES	S4VEM
Cadmium	Spike	72.3		mg/kg	72.3		1	YES	S4VEM
Chromium	Spike	105		mg/kg	105		1	YES	S4VEM
Cobalt	Spike	154		mg/kg	154		1	YES	S4VEM
Copper	Spike	2170		mg/kg	2170	D	2	YES	S4VEM
Lead	Spike	2060		mg/kg	2060		1	YES	S4VEM
Manganese	Spike	592		mg/kg	592		1	YES	S4VEM
Nickel	Spike	220		mg/kg	220		1	YES	S4VEM
Selenium	Spike	26.9		mg/kg	26.9		1	YES	S4VEM
Silver	Spike	16.4		mg/kg	16.4		1	YES	S4VEM
Thallium	Spike	12.4		mg/kg	12.4		1	YES	S4VEM
Vanadium	Spike	176		mg/kg	176		1	YES	S4VEM
Zinc	Spike	1990		mg/kg	1990		1	YES	S4VEM

# Sample Summary Report

Project Name: SHILO CHURCH ROAD SITE  
Project

GroupID: 47768/EPW14029/MC0X14

Lab Name: Bonner Analytical Testing Co.

Sample Number: PBS01

Method: Mercury by Cold Vapor

Matrix: Soil

MA Number:

Sample Location:

pH:

Sample Date:

Sample Time:

% Moisture:

% Solids: 100

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Mercury	Target	0.10	U	mg/kg	0.10	U	1	YES	S4VEM

# Sample Summary Report

**Project Name:** SHILO CHURCH ROAD SITE  
**Project**

**GroupID:** 47768/EPW14029/MC0X14

**Lab Name:** Bonner Analytical Testing Co.

Sample Number: PBS01	Method: Metals by ICP-AES	Matrix: Soil	MA Number:
Sample Location:	pH:	Sample Date:	Sample Time:
% Moisture:		% Solids: 100	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Aluminum	Target	2.7	J	mg/kg	2.7	J	1	YES	S4VEM
Antimony	Target	6.0	U	mg/kg	6.0	U	1	YES	S4VEM
Arsenic	Target	1.0	U	mg/kg	1.0	U	1	YES	S4VEM
Barium	Target	20.0	U	mg/kg	20.0	U	1	YES	S4VEM
Beryllium	Target	0.50	U	mg/kg	0.50	U	1	YES	S4VEM
Cadmium	Target	-0.011	J	mg/kg	-0.011	J	1	YES	S4VEM
Calcium	Target	500	U	mg/kg	500	U	1	YES	S4VEM
Chromium	Target	0.044	J	mg/kg	0.044	J	1	YES	S4VEM
Cobalt	Target	5.0	U	mg/kg	5.0	U	1	YES	S4VEM
Copper	Target	0.061	J	mg/kg	0.061	J	1	YES	S4VEM
Iron	Target	2.8	J	mg/kg	2.8	J	1	YES	S4VEM
Lead	Target	0.56	J	mg/kg	0.56	J	1	YES	S4VEM
Magnesium	Target	500	U	mg/kg	500	U	1	YES	S4VEM
Manganese	Target	0.18	J	mg/kg	0.18	J	1	YES	S4VEM
Nickel	Target	4.0	U	mg/kg	4.0	U	1	YES	S4VEM
Potassium	Target	500	U	mg/kg	500	U	1	YES	S4VEM
Selenium	Target	3.5	U	mg/kg	3.5	U	1	YES	S4VEM
Silver	Target	1.0	U	mg/kg	1.0	U	1	YES	S4VEM
Sodium	Target	500	U	mg/kg	500	U	1	YES	S4VEM
Thallium	Target	-0.11	J	mg/kg	-0.11	J	1	YES	S4VEM
Vanadium	Target	5.0	U	mg/kg	5.0	U	1	YES	S4VEM
Zinc	Target	0.44	J	mg/kg	0.44	J	1	YES	S4VEM

# Sample Summary Report

Project Name: SHILO CHURCH ROAD SITE  
Project

GroupID: 47768/EPW14029/MC0X14

Lab Name: Bonner Analytical Testing Co.

USEPA CLP COC (REGION COPY)

DateShipped: 25-Jul-18

CarrierName: FedEx

AirbillNo: 7728 1311 7053

## **CHAIN OF CUSTODY RECORD**

Shiloh Church Road/VA

Case #: 47768

Cooler #: 01

No: 3-07-25-18-110415-0013

Lab: Bonner Analytical Testing Company

## Lab Contact:

Lab Phone: 601-264-2854

Special Instructions:	<input checked="" type="checkbox"/> Shipment for Case Complete? N <input type="checkbox"/> Samples Transferred From Chain of Custody #
Analysis Key: ICP-MS=TAL Metals+Hg by ISM02.4 (ICP-MS), Dissolved Metals=Dissolved TAL Metals+Hg by ISM02.4 (ICP-MS), ICP-AES=TAL Metals+Hg by ISM02.4 ICP-AES	

Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt

## USEPA CLP COC (REGION COPY)

DateShipped: 26-Jul-18

CarrierName: FedEx

AirbillNo: 7728 2420 3973

## CHAIN OF CUSTODY RECORD

Shiloh Church Road/VA

Case #: 47768

Cooler #: 05

No: 3-07-26-18-105937-0017

Lab: Bonner Analytical Testing Company

Lab Contact: [REDACTED] Non-responsive based on [REDACTED]

Lab Phone: 601-264-2854

Sample Identifier	CLP Sample No.	Matrix/Sampler	Coll. Method	Analysis/Turnaround (Days)	Tag/Preservative/Bottles	Location	Collection Date/Time	Sample Type
SCR-072518-RW-013	MC0AC3	Water/ START Non-resp	Grab	ICP-MS(21)	1207 (HNO3 to pH < 2) (1)	L.P.B.M. HW	07-25-2018 15:05	Field Sample
SCR-072518-RW-013D	MC0AC4	Water/ START Non-resp	Grab	ICP-MS(21)	1215 (HNO3 to pH < 2) (1)	L.P.B.M. HW	07-25-2018 15:10	Field Sample
SCR-0718-SS04-0000-00	MC0AC7	Soil/ START Non-resp	Grab	ICP-AES(21)	1236 (None) (1)	SCR	07-25-2018 16:35	Field Sample
SCR-0718-SS05-0000-00	MC0AC8	Soil/ START Non-resp	Grab	ICP-AES(21)	1243 (None), 1275 (None) (2)	SCR	07-25-2018 16:55	Field Sample
SCR-0718-SS06-0000-00	MC0AC9	Soil/ START Non-resp	Grab	ICP-AES(21)	1250 (None) (1)	SCR	07-26-2018 08:40	Field Sample
SCR-0718-SS07-0000-00	MC0AD0	Soil/ START Non-resp	Grab	ICP-AES(21)	1257 (None) (1)	SCR	07-26-2018 09:05	Field Sample
SCR-0718-SS08-0000-00	MC0AD1	Soil/ START Non-resp	Grab	ICP-AES(21)	1264 (None) (1)	SCR	07-26-2018 09:26	Field Sample
SCR-0718-SS04-0000-01	MC0AD2	Soil/ START Non-resp	Grab	ICP-AES(21)	1271 (None) (1)	SCR	07-25-2018 16:40	Field Duplicate of [M]MC0AC7

Sample(s) to be used for Lab QC: SCR-0718-SS04-0000-01 Tag 1271	Shipment for Case Complete? N
	Samples Transferred From Chain of Custody #
Analysis Key: ICP-MS=TAL Metals+Hg by ISM02.4 (ICP-MS), ICP-AES=TAL Metals+Hg by ISM02.4 ICP-AES	

Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt



## US EPA Region 3 Analytical Request (ARF) Report

CT Number: CT8495Date Receipt: 07/12/2018Sample(s) Shipping DatesStart: 07/23/2018 End: 08/17/2018ARF Status: IN PROGRESSSite: SHILOH CHURCH ROAD SITESite Activity: REMOVAL ASSESSMENT (RS)Program: SUPERFUND (RAS AND/OR DAS)Street: Non-responsive based on revised scope SHILOH CHURCH ROADCity: NATHALIEState: VA Zip: 24577Account No: 2018-T-03-N-303DC6-A38Q-RS-00SPILL ID: A38QOPERABLE UNIT: 00

EPA ID (aka CERCLIS):

QA Title:

QA Date Approved:

EPA Project Lead: CHRIS WAGNER Phone: 804-698-4164 Cell Phone #: - - E-mail: WAGNER.CHRISTINE@EPA.GOVSite Leader: Non-responsive based on revised scope Phone: Non-responsive based on revised scope Cell Phone #: Non-responsive based on revised scope E-mail: Non-responsive based on revised scopeRequest Preparer: Non-responsive based on revised scope Phone: Non-responsive based on revised scope Cell Phone #: Non-responsive based on revised scope E-mail: Non-responsive based on revised scopeContractor: WESTON SOLUTIONS EPA CO/PO: RYAN PARKER Equivalent method substitution allowed: YES

Special Instructions:

WATER SAMPLES WILL INCLUDE BOTH GROUNDWATER AND SURFACE WATER SAMPLES  
SAMPLING WILL BE SPLIT INTO TWO DIFFERENT WEEKS, SOIL/SEDIMENT SAMPLING, ASSOCIATED QC SAMPLING, AND SURFACE WATER SAMPLING IS SCHEDULED FOR THE WEEK OF JULY 23 GROUNDWATER SAMPLING AND POTENTIALLY ANY REMAINING SURFACE WATER SAMPLING IS SCHEDULED FOR THE WEEK OF AUGUST 13

Comments:

DAS	RAS	Lab Assigned	QTY	Matrix	Parameter	Requested Method	Accepted Method	Validation Level	Unvalidated Data Due	Final Report Due	EDD Required
	47768	CHM	50	SOIL/SEDIMENT	VOLATILE ORGANIC COMPOUNDS (VOC)	SOM02 4 (LOW/MID)	SOM02 4 (LOW/MID)	M3	21	45	Y
	47768	CHEM	50	SOIL/SEDIMENT	SEMIVOLATILES (SVOCS)	SOM02 4	SOM02 4	M3	21	45	Y
	47768	CHEM	50	SOIL/SEDIMENT	PCB AROCLORS	SOM02 4	SOM02 4	M3	21	45	Y
	47768	BON	50	SOIL/SEDIMENT	METALS (TOTAL)	ISM02 4 ICP-AES	ISM02 4 ICP-AES	IM2	21	45	Y
	47768	CHEM	9	WATER	VOLATILE ORGANIC COMPOUNDS (VOC)	SOM02 4 (LOW/MID)	SOM02 4 (LOW/MID)	M3	21	45	Y
	47768	CHEM	9	WATER	SEMIVOLATILES (SVOCS)	SOM02 4	SOM02 4	M3	21	45	Y
	47768	CHEM	9	WATER	PCB AROCLORS	SOM02 4	SOM02 4	M3	21	45	Y
	47768	BON	9	WATER	METALS (TOTAL)	ISM02 4 ICP-AES	ISM02 4 ICP-AES	IM2	21	45	Y
	47768	BON	9	WATER	MERCURY (TOTAL)	ISM02 4	ISM02 4	IM2	21	45	Y
	47768	CHEM	8	DRINKING WATER	VOLATILE ORGANIC COMPOUNDS (VOC) TRACE	SOM02 4 (TRACE)	SOM02 4 (TRACE)	M3	21	45	Y



## US EPA Region 3 Analytical Request (ARF) Report

CT Number: CT8495Date Receipt: 07/12/2018Sample(s) Shipping DatesStart: 07/23/2018End: 08/17/2018ARF Status: IN PROGRESS

DAS	RAS	Lab Assigned	QTY	Matrix	Parameter	Requested Method	Accepted Method	Validation Level	Unvalidated Data Due	Final Report Due	EDD Required
	47768	CHEM	8	DRINKING WATER	SEMIVOLATILES (SVOCS)	SOM02 4	SOM02 4	M3	21	45	Y
	47768	CHEM	8	DRINKING WATER	PCB AROCLORS	SOM02 4	SOM02 4	M3	21	45	Y
	47768	BON	8	DRINKING WATER	METALS (TOTAL)	ISM02 4 ICP-MS	ISM02 4 ICP-MS	IM2	21	45	Y
	47768	BON	8	DRINKING WATER	MERCURY (TOTAL)	ISM02 4	ISM02 4	IM2	21	45	Y
	47768	CHEM	9	QC BLANKS(FIELD, EQUIP, TRIP, RIN)	VOLATILE ORGANIC COMPOUNDS (VOC) TRACE	SOM02 4 (TRACE)	SOM02 4 (TRACE)	M3	21	45	Y
	47768	CHEM	5	QC BLANKS(FIELD, EQUIP, TRIP, RIN)	SEMIVOLATILES (SVOCS)	SOM02 4	SOM02 4	M3	21	45	Y
	47768	CHEM	5	QC BLANKS(FIELD, EQUIP, TRIP, RIN)	PCB AROCLORS	SOM02 4	SOM02 4	M3	21	45	Y
	47768	BON	5	QC BLANKS(FIELD, EQUIP, TRIP, RIN)	METALS (TOTAL)	ISM02 4 ICP-AES	ISM02 4 ICP-AES	IM2	21	45	Y
	47768	BON	5	QC BLANKS(FIELD, EQUIP, TRIP, RIN)	MERCURY (TOTAL)	ISM02 4	ISM02 4	IM2	21	45	Y
	47768	BON	9	WATER	METALS (DISSOLVED)	ISM02 4 ICP-AES	ISM02 4 ICP-AES	IM2	21	45	Y
	47768	BON	9	WATER	MERCURY (DISSOLVED)	ISM02 4	ISM02 4	IM2	21	45	Y
	47768	BON	5	QC BLANKS(FIELD, EQUIP, TRIP, RIN)	METALS (DISSOLVED)	ISM02 4 ICP-AES	ISM02 4 ICP-AES	IM2	21	45	Y
	47768	BON	5	QC BLANKS(FIELD, EQUIP, TRIP, RIN)	MERCURY (DISSOLVED)	ISM02 4	ISM02 4	IM2	21	45	Y
	47768	BON	50	SOIL/SEDIMENT	MERCURY (TOTAL)	ISM02 4	ISM02 4	IM2	21	45	Y

**ESAT DATA VALIDATION EVALUATION CHECKLIST**  
**Contract # EP-W-13-023**

TDF #: 0818099

Revision: 0

Case #: 47768

SDG: MC0X14

Site Name: Shiloh Church Road Site

Parameter(s): ICP-AES, Hg

Method(s): ISM02.4

Laboratory: BON

Reviewer: Non-responsive based on revised scope

Date Submitted to EPA:

EPA RPM/OSC: Christine Wagner

Number of hours spent on review:

cc: Non-responsive based on revised scope (Weston)

Number of Samples/Aliquots: 9 / 18

Validation Level/Stage: IM2/S4VEM

EDD: YES

<u>CRITERIA</u>	<u>YES</u>	<u>NO</u>	<u>COMMENTS</u>
Format according to Region III protocol	_____	_____	_____
Clarity of report	_____	_____	_____
Qualifiers applied correctly	_____	_____	_____
Consistency between narrative and data summary form(s)	_____	_____	_____
Error-free transcription	_____	_____	_____

**EFFICIENCY OF CONTRACTOR**

Approval recommended for current submission	_____	_____	_____
Time spent on review is reasonable	_____	_____	_____
Technical Evaluation	_____	EPA Oversight	_____

<u>ESD OVERSIGHT DATES</u>	<u>TPO</u>	<u>Oversight</u>	<u>ESAT</u>
Received at EPA	_____		
Oversight assigned	_____		
Oversight received	_____	_____	
Oversight completed	_____	_____	
Feedback given	_____		
Mailed to RPM	_____		_____

Task Order #: 0002	TDF #: 0818099	Revision #: 0	Case/DAS #: 47768
Site Name: Shiloh Church Road Site			SDG #: MC0X14
Analysis Type: ICP-AES, Hg		SOW #: ISM02.4	
Reviewer: <small>Non-responsive based on review</small>			
CLP Laboratory Code: Bon			

### Data Validation Checklist – General

Peer Reviewer: \_\_\_\_\_ Due Date: 9/19/18

CRITERIA	CHECK	COMMENTS
<b>EPA Oversight Checklist</b>		
TDF #	<input type="checkbox"/>	
Case #	<input type="checkbox"/>	
SDG #	<input type="checkbox"/>	
Site Name	<input type="checkbox"/>	
Laboratory	<input type="checkbox"/>	
EPA OSC/RPM	<input type="checkbox"/>	
Validation Type	<input type="checkbox"/>	
<b>Narrative</b>		
Report Header	<input type="checkbox"/>	
Report Footer	<input type="checkbox"/>	
<b>Overview</b>		
Laboratory	<input type="checkbox"/>	
Analytical method	<input type="checkbox"/>	
Analytical services program	<input type="checkbox"/>	
NFG reference	<input type="checkbox"/>	
Validation level	<input type="checkbox"/>	
Data package receipt date	<input type="checkbox"/>	
<b>Criteria</b>		
Qualifier list	<input type="checkbox"/>	
<b>Appendix A</b>		
Regional COC	<input type="checkbox"/>	
EPA ARF	<input type="checkbox"/>	
<b>Appendix B</b>		
Laboratory narrative	<input type="checkbox"/>	
<b>Appendix C</b>		
EXES report	<input type="checkbox"/>	

General Comments:

Peer Reviewed By: \_\_\_\_\_ Date: \_\_\_\_\_

Task Order #: 0002	TDF #: 0818099	Revision #: 0	Case/DAS #: 47768
Site Name: Shiloh Church Road Site			SDG #: MC0X14
Analysis Type: ICP-AES, Hg		SOW #: ISM02.4	
Reviewer: [Redacted] Non-responsive based on review			
CLP Laboratory Code: Bon			

### Technical-Inorganics

Section	Check	Comments
Overview	<input type="checkbox"/>	
Matrix and # of samples	<input type="checkbox"/>	
Field QC samples	<input type="checkbox"/>	
Summary	<input type="checkbox"/>	
Major problems	<input type="checkbox"/>	
Minor problems	<input type="checkbox"/>	
Notes	<input type="checkbox"/>	
Compounds below CRQL	<input type="checkbox"/>	
Blank contaminants	<input type="checkbox"/>	
Field Duplicates	<input type="checkbox"/>	
Field/Rinsate Blanks	<input type="checkbox"/>	
Dilutions	<input type="checkbox"/>	
SSRs/Form Is	<input type="checkbox"/>	
EDD	<input type="checkbox"/>	

DV Item	Check	Qualifier Applied	Comments
Preservation/Holding Time	<input type="checkbox"/>		
Instrument Performance Check	<input type="checkbox"/>		
Calibration	<input type="checkbox"/>		
Blanks	<input type="checkbox"/>		
Interference Check Sample	<input type="checkbox"/>		
Serial Dilution	<input type="checkbox"/>		
Lab Duplicate	<input type="checkbox"/>		
MS/MSDs/PDS	<input type="checkbox"/>		
LCS/LCSDs	<input type="checkbox"/>		
Internal Standards	<input type="checkbox"/>		
Other	<input type="checkbox"/>		

General Comments:

Peer Reviewed By: \_\_\_\_\_ Date: \_\_\_\_\_

# Data Validation Report

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## Data Review Results

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Project Name: SHILO CHURCH ROAD SITE Project

GroupID: 47768/EPW14029/MC0X14

Lab Name: Bonner Analytical Testing Co.

Submission Group Id: 30411839

Organization: EPA Region 3

SOW: ISM02.4

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### HoldingTimes\_Preservation

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NONE FOUND

Accurate

# Data Validation Report

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## Data Review Results

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Project Name: SHILO CHURCH ROAD SITE Project

GroupID: 47768/EPW14029/MC0X14

Lab Name: Bonner Analytical Testing Co.

Submission Group Id: 30411839

Organization: EPA Region 3

SOW: ISM02.4

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### InitialCalibration

---

NONE FOUND

Accurate

# Data Validation Report

## Data Review Results

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Project Name: SHILO CHURCH ROAD SITE Project

GroupID: 47768/EPW14029/MC0X14

Lab Name: Bonner Analytical Testing Co.

Submission Group Id: 30411839

Organization: EPA Region 3

SOW: ISM02.4

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### ContinuingCalibrationVerification

---

**NONE FOUND**

**Accurate**

# Data Validation Report

## Data Review Results

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Project Name: SHILO CHURCH ROAD SITE Project

GroupID: 47768/EPW14029/MC0X14

Lab Name: Bonner Analytical Testing Co.

Submission Group Id: 30411839

Organization: EPA Region 3

SOW: ISM02.4

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### InitialCalibrationVerification

---

**NONE FOUND**

**Accurate**

# Data Validation Report

## Data Review Results

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Project Name: SHILO CHURCH ROAD SITE Project

GroupID: 47768/EPW14029/MC0X14

Lab Name: Bonner Analytical Testing Co.

Submission Group Id: 30411839

Organization: EPA Region 3

SOW: ISM02.4

### Blanks

#### Method - Metals by ICP-AES

Test Name: EXES-1342

Defect Message: The following samples have analyte results less than or equal to CRQLs. The associated CCB analyte results are less than or equal to CRQLs. Detects are qualified as U. Sample results are reported at CRQLs.

Associated Samples: MC0AB7, MC0AB8, MC0AB9, MC0AC8, MC0AC9, MC0AD0, MC0AD1

Defective Analyte	Defective Samples/Analyses
Potassium	MC0AB8, MC0AC9, MC0AD0, MC0AD1
Silver	MC0AB7, MC0AB8, MC0AB9, MC0AC8, MC0AD0, MC0AD1

Test Name: EXES-476

Defect Message: The following samples have analyte results less than or equal to CRQLs. The associated ICB analyte results are less than or equal to CRQLs. Detects are qualified as U. Sample results are reported at CRQLs. Data not qualified due to ICBs

Associated Samples: MC0AB7, MC0AB8, MC0AB9, MC0AC8, MC0AD0, MC0AD1

Defective Analyte	Defective Samples/Analyses
Silver	MC0AB7, MC0AB8, MC0AB9, MC0AC8, MC0AD0, MC0AD1

Test Name: EXES-478

Defect Message: The following samples have analyte results greater than CRQLs. The associated ICB analyte results are less than or equal to CRQLs. Use Professional Judgement to qualify detects. Data not qualified due to ICBs

Associated Samples: LCS01, MC0AC7, MC0AC9, MC0AD2, MC0AD2D, MC0AD2S

Defective Analyte	Defective Samples/Analyses
Silver	LCS01, MC0AC7, MC0AC9, MC0AD2, MC0AD2D, MC0AD2S

# Data Validation Report

## Data Review Results

Project Name: SHILO CHURCH ROAD SITE Project

GroupID: 47768/EPW14029/MC0X14

Lab Name: Bonner Analytical Testing Co.

Submission Group Id: 30411839

Organization: EPA Region 3

SOW: ISM02.4

**Test Name: EXES-479**

**Defect Message:** The following samples have analyte results greater than CRQLs. The associated CCB analyte results are less than or equal to CRQLs. Use Professional Judgement to qualify detects. **No Impact, Lab QC not qualified by validator**

**Associated Samples:** LCS01, MC0AB7, MC0AB8, MC0AB9, MC0AC7, MC0AC8, MC0AC9, MC0AD0, MC0AD1, MC0AD2, MC0AD2D, MC0AD2L, MC0AD2S

Defective Analyte	Defective Samples/Analyses
Barium	LCS01, MC0AB7, MC0AB8, MC0AB9, MC0AC7, MC0AC8, MC0AC9, MC0AD0, MC0AD1, MC0AD2, MC0AD2D, MC0AD2L, MC0AD2S
Iron	MC0AB9[Dilution-01], MC0AC9[Dilution-01], MC0AD1[Dilution-01]
Potassium	LCS01, MC0AB7, MC0AB9, MC0AC7, MC0AC8, MC0AD2, MC0AD2D

**Test Name: EXES-508**

**Defect Message:** The following samples have analyte results greater than CRQLs. The associated PB analyte results are less than or equal to CRQLs. Use Professional Judgement to qualify detects. **No Impact**

**Associated Samples:** MC0AB7, MC0AB8, MC0AB9, MC0AC7, MC0AC8, MC0AC9, MC0AD0, MC0AD1, MC0AD2

Defective Analyte	Defective Samples/Analyses
Aluminum	MC0AB7, MC0AB8, MC0AB9, MC0AC7, MC0AC8, MC0AC9, MC0AD0, MC0AD1, MC0AD2
Chromium	MC0AB7, MC0AB8, MC0AB9, MC0AC7, MC0AC8, MC0AC9, MC0AD0, MC0AD1, MC0AD2
Copper	MC0AB7, MC0AB8, MC0AB9, MC0AC7[Dilution-01], MC0AC8, MC0AC9[Dilution-01], MC0AD0[Dilution-01], MC0AD1, MC0AD2[Dilution-01]
Iron	MC0AB7, MC0AB8, MC0AB9[Dilution-01], MC0AC7, MC0AC8, MC0AC9[Dilution-01], MC0AD0, MC0AD1[Dilution-01], MC0AD2
Lead	MC0AB7, MC0AB8, MC0AB9, MC0AC7, MC0AC8, MC0AC9[Dilution-01], MC0AD0, MC0AD1, MC0AD2
Manganese	MC0AB7, MC0AB8, MC0AB9, MC0AC7, MC0AC8, MC0AC9, MC0AD0, MC0AD1, MC0AD2
Zinc	MC0AB7, MC0AB8, MC0AB9, MC0AC7, MC0AC8, MC0AC9[Dilution-01], MC0AD0, MC0AD1[Dilution-01], MC0AD2

**Test Name: EXES-549**

**Defect Message:** The following samples are associated with PB that has analyte results less than or equal to (-MDL) but greater than or equal to (-CRQL). Use Professional Judgement to qualify detects and nondetects.

**Associated Samples:** MC0AB7, MC0AB8, MC0AB9, MC0AC7, MC0AC8, MC0AC9, MC0AD0, MC0AD1, MC0AD2

Defective Analyte	Defective Samples/Analyses
Cadmium	MC0AB7, MC0AB8, MC0AB9, MC0AC7, MC0AC8, MC0AC9[Dilution-01], MC0AD0, MC0AD1, MC0AD2 – <b>No Impact</b>
Thallium	<b>MC0AB7, MC0AB8, MC0AB9, MC0AC7, MC0AC8, MC0AC9, MC0AD0, MC0AD1, MC0AD2 - UJ</b>

# Data Validation Report

## Data Review Results

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Project Name: SHILO CHURCH ROAD SITE Project

GroupID: 47768/EPW14029/MC0X14

Lab Name: Bonner Analytical Testing Co.

Submission Group Id: 30411839

Organization: EPA Region 3

SOW: ISM02.4

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### InterferenceCheckSample

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**NONE FOUND**

**Accurate**

# Data Validation Report

## Data Review Results

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Project Name: SHILO CHURCH ROAD SITE Project

GroupID: 47768/EPW14029/MC0X14

Lab Name: Bonner Analytical Testing Co.

Submission Group Id: 30411839

Organization: EPA Region 3

SOW: ISM02.4

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### LaboratoryControlSample

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NONE FOUND

Accurate

# Data Validation Report

## Data Review Results

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Project Name: SHILO CHURCH ROAD SITE Project

GroupID: 47768/EPW14029/MC0X14

Lab Name: Bonner Analytical Testing Co.

Submission Group Id: 30411839

Organization: EPA Region 3

SOW: ISM02.4

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### MatrixSpikes

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#### Method - Metals by ICP-AES

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Test Name: EXES-592

Defect Message: The following samples are associated with Matrix Spike sample that has spike analyte %R within 30 - 74% and Post-digestion spike analyte %R greater than or equal to 75%. Detects are qualified as J. Nondetects are qualified as UJ.

Associated Samples: MC0AB7, MC0AB8, MC0AB9, MC0AC7, MC0AC8, MC0AC9, MC0AD0, MC0AD1, MC0AD2

Defective Analyte	Defective Samples/Analyses
Manganese	MC0AD2A

Antimony (Sb) matrix spike recovery <30%, post digestion spike recovery >75% qualified J

# Data Validation Report

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## Data Review Results

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Project Name: SHILO CHURCH ROAD SITE Project

GroupID: 47768/EPW14029/MC0X14

Lab Name: Bonner Analytical Testing Co.

Submission Group Id: 30411839

Organization: EPA Region 3

SOW: ISM02.4

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### SerialDilution

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**NONE FOUND**

**Accurate**

# Data Validation Report

## Data Review Results

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Project Name: SHILO CHURCH ROAD SITE Project

GroupID: 47768/EPW14029/MC0X14

Lab Name: Bonner Analytical Testing Co.

Submission Group Id: 30411839

Organization: EPA Region 3

SOW: ISM02.4

### Target Analyte Quantitation

#### Method - Metals by ICP-AES

##### Test Name: EXES-790

Defect Message: The following samples have analyte results greater than or equal to detection limit (MDL) and below quantitation limit (CRQL). Detects are qualified as estimated J.

Associated Samples: MC0AB7, MC0AB8, MC0AB9, MC0AC7, MC0AC8, MC0AC9, MC0AD0, MC0AD1, MC0AD2, MC0AD2D, MC0AD2L, PBS01

Defective Analyte	Defective Samples/Analyses
Aluminum	PBS01
Antimony	MC0AB7, MC0AB8, MC0AC8
Arsenic	MC0AD2L
Beryllium	MC0AB7, MC0AB8, MC0AB9, MC0AC7, MC0AC8, MC0AC9, MC0AD0, MC0AD1, MC0AD2, MC0AD2D, MC0AD2L
Cadmium	PBS01
Calcium	MC0AB8
Chromium	PBS01
Cobalt	MC0AB7, MC0AB8, MC0AD0, MC0AD2L
Copper	PBS01
Iron	PBS01
Lead	PBS01
Magnesium	MC0AB7, MC0AB8, MC0AB9, MC0AD0, MC0AD2L
Manganese	PBS01
Potassium	MC0AB8, MC0AC9, MC0AD0, MC0AD1, MC0AD2L
Selenium	MC0AC7, MC0AC8, MC0AD2, MC0AD2D
Silver	MC0AB7, MC0AB8, MC0AB9, MC0AC8, MC0AD0, MC0AD1, MC0AD2L
Sodium	MC0AC7, MC0AC8, MC0AC9, MC0AD1, MC0AD2, MC0AD2D
Thallium	PBS01
Vanadium	MC0AD2L
Zinc	PBS01

Accurate

# Data Validation Report

## Data Review Results

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Project Name: SHILO CHURCH ROAD SITE Project

GroupID: 47768/EPW14029/MC0X14

Lab Name: Bonner Analytical Testing Co.

Submission Group Id: 30411839

Organization: EPA Region 3

SOW: ISM02.4

### Method - Mercury by Cold Vapor

Test Name: EXES-790

Defect Message: The following samples have analyte results greater than or equal to detection limit (MDL) and below quantitation limit (CRQL). Detects are qualified as estimated J.

Associated Samples: MC0AB7, MC0AB8, MC0AB9

Defective Analyte	Defective Samples/Analyses
Mercury	MC0AB7, MC0AB8, MC0AB9

Accurate

# Data Validation Report

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## Data Review Results

Thu, 16

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Project Name: SHILO CHURCH ROAD SITE Project

GroupID: 47768/EPW14029/MC0X14

Lab Name: Bonner Analytical Testing Co.

Submission Group Id: 30411839

Organization: EPA Region 3

SOW: ISM02.4

### Duplicates

#### Method - Metals by ICP-AES

Test Name: EXES-601

Defect Message: The following samples are associated with a Duplicate sample that has analyte results are greater than or equal to 5xCRQL in both Duplicate and original samples and RPD is greater than 20. Detects are qualified as J. Nondetects are qualified as UJ.

Associated Samples: **MC0AB7, MC0AB8, MC0AB9, MC0AC7, MC0AC8, MC0AC9, MC0AD0, MC0AD1, MC0AD2**

Defective Analyte	Defective Samples/Analyses
Copper	MC0AD2D[Dilution-01]

# Data Validation Report

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## Data Review Results

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Project Name: SHILO CHURCH ROAD SITE Project

GroupID: 47768/EPW14029/MC0X14

Lab Name: Bonner Analytical Testing Co.

Submission Group Id: 30411839

Organization: EPA Region 3

SOW: ISM02.4

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### SampleAnalysis

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**NONE FOUND**

**Accurate**